

NEW AUSTRALIAN FISHES. PART 3.  
A NEW SPECIES OF *POMACENTRUS* (POMACENTRIDAE)

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**Abstract**

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A new species of damselfish (Pomacentridae), *Pomacentrus arenarius* is described from Queensland and northern Western Australia. The distributional range also extends eastward to the Fiji Islands and it is present in the eastern Indian Ocean at Sri Lanka and western Thailand. It is similar to *P. philippinus*, but differs by lacking scales on the suborbital, by having 15 rather than 14 soft dorsal rays, and lower gill raker counts. Moreover, the two species occupy different habitats.

**Introduction**

The family Pomacentridae contains about 310 species in 28 genera. About 130 species are known from Australian seas (Allen, 1975). This paper describes a species relatively common in many reef areas of northern Australia and adjacent regions. Type specimens of the new taxon are deposited at the Australian Museum, Sydney (AMS), Bernice P. Bishop Museum, Honolulu (BPBM), and Western Australian Museum, Perth (WAM).

***Pomacentrus arenarius* sp. nov.**

**Figure 1**

*Material examined.* Holotype: Australia, Queensland, Escape Reef, Great Barrier Reef (15°50'S, 145°50'E), 15 m, rotenone, G. Allen, 28 Oct 1981, WAM P27465-001 (68.0 mm SL).

Paratypes: Australia, Queensland, type locality, AMS I.26319-001 (68.6 mm SL); Lizard Island (14°40'S, 145°28'E), rotenone, Australian Museum party, Nov 1975, BPBM 30942 (69.0 mm SL); Escape Reef, 20-30 m, rotenone, G. Allen, 27 Oct 1981, WAM P.27461-004 (44.0 mm SL).

Western Australia, Kendrew Island, Dampier Archipelago (20°29'S, 116°32'E), 3-4 m, spear, G. Allen, 21 Oct 1974, WAM P25107-008 (2 specimens, 62.0-68.3 mm SL); North West Cape, off Tantabiddi Creek (21°53'S, 114°00'E), 15-18 m, spear, G. Allen, 30 Jun 1975, WAM P25371-004 (2 specimens, 60.0-74.5 mm SL).

Papua New Guinea, New Ireland, near Kapo Point, west side of Kieta Peninsula (6°11'S, 155°37'E), 28-33 m, rotenone, G. Allen, 2 Oct 1983, WAM P28161-002 (53.76 mm SL).

Vanuatu, Bogaeio Island, off south-east coast of Espiritu Santo (15°30'S, 166°28'E), 20 m, rotenone, G. Allen, W.

Starck, D. Popper, 28 Jun 1973, WAM P24940-001 (88.5 mm SL).

*Description.* (Counts and proportions in parentheses refer to paratypes if different than holotype). Dorsal rays XIII, 15; anal rays II, 16 (15-17, usually 15 or 16); pectoral rays 18 (17-19, usually 18); lateral-line scales with tubes 17 (17-19); gill rakers on first arch 7 + 15 = 22 (6-7 + 13-16 = 19-23, usually 19-21); teeth of jaws conical, biserial anteriorly; suborbital and preopercle strongly serrate; suborbital and preorbital scaleless; predorsal scales extending forward to level of nostrils; greatest body depth 1.9 (1.9-2.1), head length 3.4 (3.1-3.5), both in standard length; snout length 3.8 (3.8-4.3), eye diameter 2.8 (2.7-3.1), interorbital width 3.4 (3.0-4.1), least depth of caudal peduncle 1.9 (1.9-2.1), length of caudal peduncle 2.0 (2.0-2.5), of pectoral fin 0.9 (0.9-1.0), of pelvic fin 0.8 (0.8-0.9), of caudal fin (0.9-1.0), all in head length.

Colour in life: Variable according to locality. Specimens from the Great Barrier Reef and Melanesia generally light to charcoal grey with narrow streak of bright blue on each scale; head covered with numerous blue spots and narrow lines; a prominent black spot covering entire pectoral fin base and small indistinct dark grey spot at upper posterior corner of operculum; dorsal and anal fins grey with blue spots on basal sheath scales and series of light grey to tan stripes, outer edge of dorsal fin narrowly dark blue to black-



Figure 1. *Pomacentrus arenarius*, adult, photographed underwater at Madang, New Guinea.

ish; caudal fin tan to whitish with faint banding pattern that is usually broken giving overall speckled appearance; pectoral fins translucent, pelvic fins pale grey, often dusky on distal portion. Specimens from Western Australia are generally much lighter grey, nearly whitish over much of the side, with a very slight suffusion of yellow posteriorly; other markings on the head and fins are similar. The blackened area at the base of the pectoral fin is much reduced compared to Pacific specimens; it forms only a small dark wedge on the upper 1/3-1/2 of the fin base.

Colour in alcohol: Queensland and Melanesian specimens overall dark purplish-brown, scale centres slightly paler, also head and breast slightly paler than remainder of body; dorsal and anal fins dark brown with light grey stripes, these fins often whitish posteriorly with broken stripes forming speckled pattern; caudal fin more or less abruptly whitish with faint grey speckling; pectoral fins translucent with prominent black spot covering base and axil of fin. A juvenile (36 mm SL) specimen is similar but without speckling on

the caudal fin. It is further characterised by an ocellated black spot at the base of the posterior dorsal-fin rays. This spot is sometimes faintly visible in adults. Specimens from Western Australia are purplish-brown anteriorly becoming tan on the posterior one-third of the body. Other aspects of the coloration are similar to Pacific specimens except the black spot at the pectoral base is reduced to a small wedge-shaped mark superiorly and the axil of this fin is pale.

*Distribution.* Australia, Great Barrier Reef and Western Australia between North-west Cape and the Dampier Archipelago. Allen (1975) also recorded it as *Pomacentrus* sp. from the Indo-Malayan region, Palau Islands, New Guinea, New Britain, Solomon Islands, Vanuatu, Loyalty Islands and New Caledonia, Sri Lanka and in the Andaman Sea off Thailand.

*Etymology.* From the Latin *arenarius* (of sand) referring to the general habitat of this species.

*Remarks.* Pacific specimens are similar in general appearance to the sympatric *Pomacentrus philip-*

*pinus*, both having a black pectoral base and pale caudal fin. However, *P. philippinus* differs by having scales on the posterior part of the suborbital, 14 soft dorsal rays, and 23-24 gill rakers on the first arch. In addition, it is a reef crevice dweller compared to the open sandy habitat of *P. arenarius*.

I provisionally identify three lots of specimens from Sri Lanka (WAM P26513-003, 60 mm SL) and western Thailand (WAM P26506-013, 4: 52-80 mm SL and WAM P26508-006, 5: 54-82 mm SL) as *P. arenarius*. Although very similar in colour to Pacific *P. arenarius*, the blackened area at the pectoral base is reduced (as in specimens from Western Australia) and the juvenile ocellus persists in adult specimens. The most consistent

feature found in specimens from all geographic areas is the speckled pattern on the caudal fin (and also often on the posterior part of the dorsal and anal fins).

*Pomacentrus arenarius* inhabits lagoons, harbours, passages, and outer reef areas in about 3 to 35 m depth, usually in sandy habitats where there is shelter in the form of small coral heads, sponge, etc. It occurs solitarily or in small groups. The diet consists mainly of zooplankton which is taken within about 2 m of the substratum, although some benthic algae is also consumed.

### Reference

- Allen, G.R. 1975. *Damselfishes of the South Seas*. T.F.H. Publications, Inc.: New Jersey.